Hepatitis A

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

1. To identify individual cases, disease outbreaks and potential sources of ongoing transmission to prevent further spread of hepatitis A.
2. To identify contacts and assure timely prevention measures.
3. To educate contacts about signs and symptoms of disease, to facilitate early diagnosis.
4. To educate cases and contacts about transmission of hepatitis A and how to reduce their risk of infection.

B. Legal Reporting Requirements

1. Health care providers: **immediately notifiable to local health jurisdiction**.
2. Hospitals: **immediately notifiable to local health jurisdiction.**
3. Laboratories: detection of anti-HAV IgM notifiable to local health jurisdiction within 2 work days.
4. Local health jurisdictions: notifiable to the Washington State Department of Health (DOH) Communicable Disease Epidemiology Section (CDES) within 7 days of case investigation completion or summary information required within 21 days.

C. Local Health Jurisdiction Investigation Responsibilities

1. Begin investigation as soon as possible.
2. Administer appropriate infection control measures (see Section 6).
3. Report all confirmed cases (see case definition below) to CDES. Complete the hepatitis A case report form (http://www.doh.wa.gov/notify/forms/hepa.doc) and enter the data into the Public Health Issues Management System (PHIMS).

2. THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

The hepatitis A virus (HAV) is a picornavirus.

B. Clinical Manifestations

The onset of hepatitis A is usually abrupt with fever, malaise, anorexia, nausea, and abdominal pain, followed within a few days by jaundice. The clinical course of infection may range from asymptomatic to a disabling illness lasting weeks to several months and relapses can occur. Fulminant hepatitis is rare, but may be fatal or require liver transplantation. Children under 6 years of age are least likely to be symptomatic, while most older children and adults will develop symptoms. Chronic infection does not occur. Infection results in life-long immunity, which can be demonstrated by detecting IgG antibody to hepatitis A virus (anti-HAV) in serum.

Hepatitis A is endemic in many developing countries; the incidence has been decreasing in the United States as routine use of childhood hepatitis A vaccine increases.

Hepatitis A cannot be distinguished from other viral hepatitides without specific diagnostic testing.

C. Hepatitis A in Washington

From 1989 to 2005, the incidence of hepatitis A decreased from 70 to 1 case/100,000 population, primarily as a result of the introduction of hepatitis A vaccine. Sources of exposure identified in Washington have included contact with an infected person in a household or child care center, sexual contact, injection and non-injection drug use (especially methamphetamine), restaurant meals, travel to an endemic area, and ingestion of contaminated food or water.

D. Reservoirs

Reservoirs for hepatitis A virus are acutely infected humans (with or without symptoms).

E. Modes of Transmission

Transmission is most commonly person-to-person via the fecal-oral route, but can also occur through fecal contamination of food or water. Certain foods such as produce and shellfish can become contaminated when they come in contact with hepatitis A containing water. Special risk situations for hepatitis A transmission include food service facilities with poor sanitation and child care facilities serving diapered children. Recent outbreaks in the United States have been associated with contaminated produce imported from endemic areas. Parenteral transmission (e.g., needlestick, transfusion of blood products) is rare, because viremia is brief and blood virus levels are low.

Virus can remain infectious for at least one month at room temperature on environmental surfaces, and transfer on fomites is probably important in some settings (e.g., on toys in a child care facility).

F. Incubation Period

15–50 days, with an average of 30 days.

G. Period of Communicability

The highest levels of hepatitis A virus are present in feces from 1–2 weeks before the onset of symptoms until about 7 days after the patient becomes jaundiced.

H. Treatment

No specific therapy is available, treatment is supportive only.

3. CASE DEFINITIONS

A. Clinical Criteria for Diagnosis

An acute illness with a) discrete onset of symptoms **and** b) jaundice or elevated serum aminotransferase levels.

B. Laboratory Criteria for Diagnosis

Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive

C. Case Definition (2000)

Confirmed: 1) a case that meets the clinical case definition and is laboratory confirmed or 2) a case that meets the clinical case definition and occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (e.g., household or sexual contact with an infected person during the 15–50 days before the onset of symptoms).

4. DIAGNOSIS AND LABORATORY SERVICES

A. Diagnosis

The diagnosis is confirmed by detection of anti-HAV IgM in serum in a person with an acute illness compatible with hepatitis A. IgM can be detected in serum at the onset of symptoms and commonly persists for 4–6 months. False positives anti-HAV IgM can occur, especially in older, asymptomatic individuals*, therefore IgM should only be requested when evaluating a patient with an acute illness suggestive of hepatitis A.

Anti-HAV IgM can also be detected after receipt of hepatitis A vaccine. Approximately 10–20% of adults will have detectable anti-HAV IgM 2–3 weeks after a dose of vaccine.

*Centers for Disease Control and Prevention. Positive Test Results for Acute Hepatitis A Virus Infection Among Persons With No Recent History of Acute Hepatitis --- United States, 2002—2004. MMWR 2005;54(18):453-456. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5418a1.htm

B. Tests Available at the Washington State Public Health Laboratories (PHL)

PHL does not perform serology for hepatitis A, but the test is widely available at commercial laboratories. During an outbreak, CDES may request a specimen from a case for molecular sequencing at the Centers for Disease Control and Prevention.

C. Specimen Collection

Serum for anti-HAV IgM can be collected from patients from the onset of symptoms until 4–6 months after onset.

5. ROUTINE CASE INVESTIGATION

Interview the case and/or others who may be able to provide pertinent information.

A. Evaluate the Diagnosis

Confirm that the case's illness is consistent with acute hepatitis A; false positive IgM may be seen in older persons without acute infection (see Section 4A).

B. Identify Potential Sources of Infection

Ask the case about potential exposures 15–50 days before onset of illness, including:

1. Any persons (e.g., household member, sex partners, shared a meal) who had an illness compatible with hepatitis A (these cases should be reported and investigated in the same manner as the index case). Obtain the person's name and contact information.
2. Any restaurant or other food service meals. Obtain the name and location of the restaurant and date of the meal(s).

3. Any social gathering or other group setting where the case ate a meal. Obtain the date, location, and sponsor of the event.
4. Contact with diapered children, children in child care or other setting for preschool children or staff of these facilities.
5. Sources of drinking water at home, at work and during trips (obtain trip locations and dates).
6. Sources and dates of consumption of any raw or partially cooked shellfish (restaurant or retail outlets).
7. Travel outside the United States.
8. Illicit drug use.
9. Sex partners.

C. Identify Exposed, Susceptible Contacts

Identify persons with significant opportunity for fecal-oral exposure during the period of communicability, including:

1. Household and sexual contacts;
2. Persons who have eaten food prepared or handled by the case;
3. Child care contacts;
4. Persons who have shared drugs with the case;
5. Others with ongoing close personal contact with the case.

Determine whether the contacts of the case are immune or susceptible to hepatitis A. Persons are considered immune to hepatitis A if they have received at least one dose of hepatitis A vaccine at least 28 days prior to the exposure, or if they have a history of laboratory confirmed hepatitis A. Serologic testing of contacts to determine immune status is generally not recommended because screening would result in delay.

D. Environmental Evaluation

None, unless a commercial food service facility, child care center, or public water supply appears to be implicated as the source of infection.

6. CONTROLLING FURTHER SPREAD

A. Infection Control Recommendations / Case Management

1. Hospitalized patients should be treated using standard precautions. In addition, contact precautions should be used for diapered or incontinent persons. These contact precautions should be maintained in infants and children less than 3 years of age for the duration of the hospitalization; for children 3–14 years of age for 2 weeks after onset of symptoms; and for children over 14 years of age for 1 week after the onset of symptoms.
2. The case should be educated regarding effective hand washing, particularly after using the toilet, changing diapers, and before preparing or eating food.
3. Hepatitis B vaccination should be recommended for any susceptible person at risk for

ongoing exposure to hepatitis B (such as cases reporting illicit drug use or multiple sexual partners).

4. School restrictions: Children should not attend school if they have diarrhea.
5. Work and Child Care Restrictions: Persons should not work as food handlers, child care or healthcare workers, or attend child care during their infectious period (until diarrhea has resolved and 7 days have passed since the onset of jaundice). Restrictions can be modified or lifted at the discretion of the local health department. See Section 7 for further guidance on management of food workers and child care attendees infected with hepatitis A.

B. Contact Management

1. Symptomatic Contacts

Symptomatic household and other close contacts of a confirmed case should be referred to a healthcare provider and tested for acute hepatitis A.

2. Postexposure Prophylaxis[1-2]

Susceptible persons who have recently been exposed to hepatitis A virus should be administered a single dose of single-antigen vaccine or immune globulin (IG) (0.02 mL/kg body weight) as soon as possible, within 2 weeks after exposure. Postexposure prophylaxis has not been shown to prevent disease when given more than 2 weeks postexposure.

- ***For healthy persons aged 12 months–40 years***, single-antigen hepatitis A vaccine at the age-appropriate dose is preferred to IG because of vaccine advantages, including long-term protection and ease of administration, and the equivalent efficacy of vaccine to IG.
- ***For persons aged >40 years***, IG is preferred because of the absence of information regarding vaccine performance in this age group and because of the more severe manifestations of hepatitis A in older adults. Vaccine can be used if IG cannot be obtained. The magnitude of the risk of hepatitis A virus transmission from the exposure should be considered in decisions to use vaccine or IG in this age group.
- ***For children aged <12 months, immunocompromised persons, persons with chronic liver disease, and persons for whom vaccine is contraindicated***, IG should be used.

Completion of the hepatitis A vaccine series according to the licensed schedule is necessary for long-term protection against hepatitis A. Consider initiating hepatitis A vaccination for any person receiving IG postexposure prophylaxis who has ongoing risk for exposure to hepatitis A. In addition, consider initiating hepatitis B vaccination for any person at risk for exposure to hepatitis B.

[1]Centers for Disease Control and Prevention. Update: Prevention of Hepatitis A After Exposure to Hepatitis A Virus and in International Travelers. Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007;56(41):1080–1084. Summary available at: http://www.cdc.gov/ncidod/diseases/hepatitis/a/faqa_PEP.htm

[2]Victor JC, Monto AS, Surdina TY, et al. Hepatitis A vaccine versus immune globulin for postexposure prophylaxis. N Engl J Med 2007;357:1685–94.

3. Education

All persons exposed to the case or the same source as the case should be educated about signs and symptoms of hepatitis A in both children and adults, and methods to prevent transmission. They should be informed that persons may be infectious without being ill.

D. Environmental Measures

1. Water Supply: If a contaminated public or private water supply is implicated as the source of infection, contact local or state environmental health personnel for assistance.
2. Sewage Disposal: If the case's home is served by a failing sewage system, contact local or state environmental health personnel for assistance in preventing exposure of others to the sewage effluent.
3. Shellfish exposure suspected: Contact the DOH Shellfish Program.
4. Food Service Facility (see Section 7: Managing Special Situations)
5. Child Care Facility (see Section 7: Managing Special Situations)

7. MANAGING SPECIAL SITUATIONS

A. Management of Hepatitis A in a Food Handler

If acute hepatitis A is diagnosed in a food handler, the following actions should be taken:

1. Exclude the case from the facility until diarrhea has resolved and one week has passed after the onset of jaundice.
2. Evaluate all food handlers at the facility for current or recent hepatitis A.
3. Administer hepatitis A vaccine or immune globulin (IG) to all susceptible food handlers at the same establishment (see Section 6B2).
4. Ask the facility manager or other designee to monitor all food handlers at risk for hepatitis A for one incubation period (50 days) after the last exposure to the index case.
5. Consider hepatitis A vaccination or IG for patrons if:
   - The food handler directly handled uncooked food or food after cooking during the infectious period, and had diarrhea or poor hygiene practices,

     AND

   - Postexposure prophylaxis can be administered to patrons within two weeks of the exposure
6. Educate the manager regarding the epidemiology of hepatitis A and the importance of hand hygiene and glove use.

B. Management of Hepatitis A in a Child Care Setting

Because most hepatitis A virus infections in young children are asymptomatic, illness among adult staff members or household contacts is often the first (and only) indication of an outbreak in a child care facility.

1. Exclusion: Exclude persons with hepatitis A from the facility until diarrhea has resolved and one week has passed after the onset of jaundice.
2. Postexposure prophylaxis
   - Administer hepatitis A vaccine or immune globulin (IG) to all susceptible staff and attendees in the following situations:
     - Acute hepatitis A occurs in ≥1 attendee or staff or
     - Acute hepatitis A occurs in ≥2 households of an attendee at a child-care facility
   - Postexposure prophylaxis needs to be recommended only to contacts in the same classroom as the case if the center does not provide care to diapered children.
   - If acute hepatitis A occurs in ≥3 families at any child care facility, postexposure prophylaxis should also be considered for household members of children in diapers who attends the facility.
3. Surveillance: To identify new infections quickly, the local health jurisdiction should begin surveillance for hepatitis-like illness among households connected to the facility for 50 days after onset of the last case.
4. Education
   - All households should be provided with basic information about hepatitis A and hygiene, and instructed to contact the health department immediately if anyone develops a hepatitis-like illness.
   - The critical role of good personal hygiene (especially handwashing) should be reviewed with child care staff.

8. ROUTINE PREVENTION

A. Immunization Recommendations

The hepatitis A vaccines currently licensed in the United States include HAVRIX®, VAQTA®, and the combination vaccine TWINRIX® which contains both HAV and HBV antigens. HAVRIX® and VAQTA® are licensed for persons 12 months of age or older and are given as a two dose series separated by 6–12 months and 6–18 months respectively. TWINRIX® is licensed for persons 18 years and older and is given as a 3 dose series at 0, 1, and 6 months.

Vaccination with hepatitis A vaccine is recommended for the following (if susceptible):

- All children at age 1 year (i.e., 12–23 months). Children who are not vaccination by 2 years of age can be vaccinated at subsequent visits.
- Children and adolescents ages 2–18 who live in states or communities where routine hepatitis A vaccination has been implemented because of high disease incidence.
- Persons traveling to or working in countries that have high or intermediate endemicity of infection. (IG can be given prior to departure but vaccination is preferred.)
- Men who have sex with men.
- User of illegal injection and noninjection drugs.

- Persons who have occupational risk for infection.
- Persons with clotting-factor disorders who receive clotting factor concentrates.
- Persons with chronic liver disease.

For more information, see:

Centers for Disease Control and Prevention. Prevention of hepatitis A through active or passive immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2006;55(No. RR-7):1–23.

B. Prevention Recommendations

In addition to vaccination and immunoglobulin, persons should always wash hands after using the bathroom, changing a diaper, or before preparing or eating food.

ACKNOWLEDGEMENTS

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UPDATES

APPENDIX: SAMPLE PRESS RELEASE AND COMMENTS

Target the announcement as specifically as possible. Itemize implicated foods, dates and times served, etc. Keep in mind that foods prepared by a certain worker are not necessarily served during the same shift hours. You may decide that there is no reason to run your own prophylaxis clinic. Find out if the restaurant plans to pay for prophylaxis up front. If they are, say so in your announcement. Alert exposed people who are too late for prophylaxis to signs and symptoms of hepatitis. Encourage them to seek medical attention promptly should illness develop.

This kind of alert is NOT a hepatitis outbreak. It is the health department taking action to PREVENT one! Make sure the difference is clear. Provide "boilerplate" background information about hepatitis A last.

Madison County Announces Hepatitis A Alert

The Madison County Health Department announced today that recent patrons of the "Hands On" Restaurant, 1234 Main St, Anytown, may have been exposed to hepatitis A. "On July 3, a case of hepatitis A in a restaurant worker was reported to the Health Department," said Frank Teeterboro, Madison County Health Department Administrator.

"To prevent illness, persons who have not been vaccinated against hepatitis A and ate at the salad bar or had any sandwich with lettuce between 11 a.m. and 4 p.m. on June 24, 26, 29, 30, or July 1 should get an injection of immune globulin or hepatitis A vaccine as soon as possible, but not more than two weeks after their exposure," said Teeterboro. A health care provider or the [local health department] will determine which preventive measure is best for you. Immune globulin and hepatitis A vaccine are available from most health care provider offices, emergency rooms, and urgent care clinics, but you should call ahead to ensure availability. Immune globulin and hepatitis A vaccine will also be given at the Madison County Health Department, 506 Poe St. in downtown Anytown, on Wednesday and Thursday, July 5 and 6, from 3-7 PM. No appointment is necessary. A donation of $15 is requested, but no one will be refused immunization because of inability to pay.

Persons who ate risk foods on June 19 or 20 may also have been exposed, but it is now too late for immune globulin or hepatitis A vaccine to prevent illness. If you ate at the restaurant and develop symptoms of hepatitis A (see below), contact your physician.

The purpose of this alert is preventive; no cases resulting from exposure at the restaurant have been reported. The restaurant has been inspected and is believed to be safe at the present time. This alert concerns the Anytown restaurant only—not other restaurants in the Hands On chain.

Hepatitis A is a viral disease of the liver. It is spread from person to person by the "fecal-oral" route, often by inadequate handwashing after using the toilet or changing diapers. Typical symptoms of hepatitis A include fatigue, fever, malaise, loss of appetite, abdominal pain, nausea, vomiting, and jaundice (yellowing of the skin or eyes). Symptoms usually develop 3–5 weeks after exposure. Some infections may be very mild or even asymptomatic.

HEPATITIS A ALERT, (DATE)

COMMUNICABLE DISEASE CONTACT
FOR THE PUBLIC: XXX-XXXX

FOR MORE INFORMATION
Call: (name) XXX-XXXX

The (*Name*) County Department of Health has confirmed hepatitis A in a foodhandler working at the (*Name*) Restaurant, located at (*address*) in (*City*). The foodhandler worked during a period in which hepatitis A infection could have been transmitted through food. The Department of Health makes the following recommendations for persons who ate food at the restaurant:

1. Persons who ate any (*list risk food items*) on (*dates within 14 days*) should receive prophylaxis.

2. Persons eating these items before (*date 14 days ago*) may have been exposed, but it is too late for prophylaxis to be effective. Such persons should consult with the Department of Health for information about hepatitis A symptoms and ways to prevent transmission.

3. Persons having ONLY (*list safe food items*) do NOT need to receive immune globulin.

Any person who received immune globulin within the past three months, ever received hepatitis A vaccine, or ever had laboratory confirmed hepatitis A infection does not need prophylaxis.

Prophylaxis shots can be obtained from personal health care providers or from (*Name*) County Department of Health clinics. (*Name*) Restaurant has agreed to pay for shots received at Department of Health clinics.

Prophylaxis must be received no later than 14 days after exposure to be effective in preventing illness. For example, someone who ate on March 18th (*change date*) should receive prophylaxis no later than today, April 1st (*change date.*) Persons eating the implicated foods more than two weeks ago should watch for the following:

Symptoms of hepatitis A: nausea, loss of appetite, vomiting, fatigue, fever, abdominal cramps, dark-colored urine, light or whitish-colored stools, and jaundice (a yellow color to the eyes or skin).

Incubation period: two to six weeks from exposure to symptoms.

Transmission: hepatitis A virus is passed in the stools (not saliva or other body fluids). The virus infects another person when it is eaten.

Prevention: Thorough handwashing with soap and hot water after using the toilet and before handling food is the most important factor in preventing spread. Prophylaxis is highly effective if received within 14 days of exposure.

Persons suspecting that they have symptoms of hepatitis should contact their health care provider. Persons working as foodhandlers who experience symptoms should not work, and should be seen by a health care provider. Persons with questions should contact their personal health care provider or the Department of Health at XXX-XXXX.